WEST

End of Result Set

Generate Collection Print

L4: Entry 3 of 3 File: USPT Dec 7, 1999

DOCUMENT-IDENTIFIER: US 5999827 A
TITLE: Communication terminal apparatus and control method thereof

Detailed Description Paragraph Right (32):
The controller 47 operates based on programs stored in a ROM 48 and data read into a RAM 49. The controller 47 also controls a transmitting/receiving circuit 40 to transmit and receive information to and from other communication terminals via an antenna 41 connected to the transmitting/receiving circuit 40. The controller 47 has a card socket 43 connected thereto, and reads out all the management information on a subscriber from a subscriber ID card 42 (in the second embodiment, a Subscriber Identity Module (SIM) card 42 is described) inserted into the card socket 43.

Detailed Description Paragraph Right (39):
Main functions assigned to the respective operation keys are as follows. The power supply key 36A is used to supply power to the internal circuit in the main body 32. When the power supply key 36A is pressed once, the power is supplied to the apparatus, and when the power supply key 36A is pressed twice, the power supply is turned off. If the user has not input a PIN (Personal Identity Number) for thirty seconds after the power was supplied by the power supply key 36A, the controller 47 detects the circumstance and automatically turns off the power. In this manner, it is possible to prevent the power from continuing to be supplied during malfunctioning.

Detailed Description Paragraph Right (47):
If no operation has been executed for thirty seconds since a menu screen was displayed, the control 47 detects this and closes the menu screen to return to the initial screen. In this case, if the arm microphone 33 is closed, the state returns to the key lock state. This prevents from malfunctioning.

Detailed Description Paragraph Right (51):
The axis of rotation 0 is fixed to the slide plate. When the jog dial is pressed in direction of the arrow D, the rotary encoder and the jog dial are slid en bloc to press operate the switch SW, and the switch SW is switched to the "ON" state. The controller 47 determines whether or not the jog dial 36J has been clicked, that is, press operated by detecting the "ON" or "OFF" state of the switch SW based on the output signal from the switch SW.

Detailed Description Paragraph Right (53):

Thus, when the jog dial is rotated in direction of arrow A shown in FIG. 15B, the electric potential of the inner track side output from the facing electrodes falls earlier to the earth potential, as shown in FIG. 16A. On the other hand, when the jog dial is rotated in direction of arrow B in FIG. 15B, the electric potential of outer the track side output from the facing electrodes falls earlier relative to the earth potential, as shown in FIG. 16B. In this manner, the controller 47 detects which electric potentials of the inner and outer track falls earlier, so that the rotational direction of the jog dial 36J can be detected. In addition, the number of pulses output from the outer track electrode is counted by a counter in the controller 47, the number of rotations of the jog dial 36J thus can be detected.

Detailed Description Paragraph Right (55):
In addition, in the case where the telephone book list is displayed, by pressing the jog dial 36J continuously for a specified length of time, the user can instruct the controller 47 to initiate a call. As described above, the rotary encoder of the jog dial 36J press operates the switch SW, and it is detected whether or not the jog dial 36J has been press operated for a specified length of time by the controller 47 based on the output signal from the switch SW. Incidentally, by rotating the jog dial 36J in the circumferential direction during communications, the volume (reception volume) can be adjusted. This is operated by detecting the direction and the number of rotation of the jog dial 36J by the controller 47 to control volume output from the speaker 34 based on the output signal output from the rotary encoder of the jog dial 36J as shown in FIGS. 16A and 16B. Also, the mute operation can be performed by clicking the jog dial 36J during communications. Since the switch SW of the jog dial 36J is press operated by being clicked the jog dial 36J, the controller 47 executes the mute operation to the signal supplied to the speaker 34 based on the output signal from the switch SW. Therefore, the mute operation is performed.

Detailed Description Paragraph Right (68):
The function that, if no operation is operated for a specified length of time, for example thirty seconds, when in the state of displaying detailed information, such as shown in FIG. 20 (D), a call will not be executed and closes the telephone book list to return to the initial screen shown in (A) of FIG. 20, is provided. The timer in the controller 47 counts or measures the elapsed time from when the jog dial 36J or the keys 36A to 36H was last operated. If the timer in the controller 47 detects that the jog dial 36J or the keys 36A to 36H are not operated at the point of time that thirty second has passed, the controller 47 outputs the control signal to switch the display screen on the display 35. Therefore, even if a key capable of initiating a call is inadvertently pressed when the portable telephone apparatus 31 is carried in a bag with a detailed display screen displayed, an erroneous call does not occur. This function also works when the list screen is being displayed.

Detailed Description Paragraph Right (69):
In addition to the method for initiating a call from the screen of telephone book list, there is another method of pressing the send

key 36E while the display screen shown in (D) of FIG. 20 is being displayed. This is a method that a call is initiated after detailed information on the communicate is displayed, and the portable telephone apparatus 31 also provides a function of initiating a call directly from the list screen. For example, if the send key 36E is pressed while the display screen shown in (C) of FIG. 20 is being displayed, a call to a communicates at which the cursor K is positioned can be immediately initiated. A call can also be immediately initiated by continuously pressing the numeric key corresponding to a communicate for one second. In these methods, the controller 47 detects the output signal from the send key 36E or detects that the numeric key 36B is pressed for a specified length of time, and controls the transmitting/receiving circuit 40 to initiate a call operation. The method for detecting whether or not the numeric key 36B is press operated for a specified length of time can be executed similar to the aforementioned method for detecting whether or not the jog dial 36J is pressed for a specified length of time.

Detailed Description Paragraph Right (117):
Furthermore, in the second embodiment described above, an SIM card is used as an ID card for storing all the management information for a subscriber. However, this invention is not only limited to this, but ID cards that conform to other standards can be used.

CLAIMS:

1. A communication terminal apparatus comprising:

a body;

transmitting and receiving means arranged in said body;

selection operation means arranged on said body operable by a user in a first direction along a surface of said body and in a second direction substantially perpendicular to the first direction;

operation detection means for detecting an operation of said selection operation means in said first direction and in said second direction;

storage means for storing data of a plurality of communicatees;

display means for displaying said plurality of communicatees read out of said storage means; and

control means for controlling said display means so that one of said plurality of communicatees is selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in said first direction, and for controlling said transmitting and receiving means to originate a call to said plurality of communicatees selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in said second direction, and perform a mute operation in response to operating said selection operation means in said second direction, wherein

said control means controls said transmitting and receiving means to adjust a reception sound volume in response to operating said selection operation means in said first direction during a communication operation, and wherein

said control means controls said transmitting and receiving means to perform a mute operation in response to operating said selection operation means in said second direction.

2. A communication terminal apparatus, comprising:

a body;

a microphone rotatably mounted on said body and positionable in an opened state and a closed state, said microphone used in the opened state during a communication-operation;

transmitting and receiving means arranged in said body;

selection operation means arranged on said body for operation by a user in a first direction and in a second direction, said first and second directions being substantially perpendicular to each other;

operation detection means for detecting the operation of said selection operation means in the first and second directions;

storage means for storing data of a plurality of communicatees;

display means for displaying said data of said plurality of communicatees read from said storage means; and

control means operable when said microphone is in the opened state for reading the data of the plurality of communicatees from said storage means and for displaying read out data on said display means in response to a detection result of said operation detection means when said selection operation means is operated in the second direction a first time, said control means controlling said display means so that one of said communicatees is selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in the first direction, and said control means controlling said transmitting and receiving means to originate a call to the communicatee selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in the second direction a second time.

Thus, when the jog dial is rotated in direction of arrow A shown in FIG. 15B, the electric potential of the inner track side output from the facing electrodes falls earlier to the earth potential, as shown in FIG. 16A. On the other hand, when the jog dial is rotated in direction of arrow B in FIG. 15B, the electric potential of outer the track side output from the facing electrodes falls earlier relative to the earth potential, as shown in FIG. 16B. In this manner, the controller 47 detects which electric potentials of the inner and outer track falls earlier, so that the rotational direction of the jog dial 36J can be detected. In addition, the number of pulses output from the outer track electrode is counted by a counter in the controller 47, the number of rotations of the jog dial 36J thus can be detected.

Detailed Description Paragraph Right (55):
In addition, in the case where the telephone book list is displayed, by pressing the jog dial 36J continuously for a specified length of time, the user can instruct the controller 47 to initiate a call. As described above, the rotary encoder of the jog dial 36J press operates the switch SW, and it is detected whether or not the jog dial 36J has been press operated for a specified length of time by the controller 47 based on the output signal from the switch SW. Incidentally, by rotating the jog dial 36J in the circumferential direction during communications, the volume (reception volume) can be adjusted. This is operated by detecting the direction and the number of rotation of the jog dial 36J by the controller 47 to control volume output from the speaker 34 based on the output signal output from the rotary encoder of the jog dial 36J as shown in FIGS. 16A and 16B. Also, the mute operation can be performed by clicking the jog dial 36J during communications. Since the switch SW of the jog dial 36J is press operated by being clicked the jog dial 36J, the controller 47 executes the mute operation to the signal supplied to the speaker 34 based on the output signal from the switch SW. Therefore, the mute operation is performed.

Detailed Description Paragraph Right (68):
The function that, if no operation is operated for a specified length of time, for example thirty seconds, when in the state of displaying detailed information, such as shown in FIG. 20 (D), a call will not be executed and closes the telephone book list to return to the initial screen shown in (A) of FIG. 20, is provided. The timer in the controller 47 counts or measures the elapsed time from when the jog dial 36J or the keys 36A to 36H was last operated. If the timer in the controller 47 detects that the jog dial 36J or the keys 36A to 36H are not operated at the point of time that thirty second has passed, the controller 47 outputs the control signal to switch the display screen on the display 35. Therefore, even if a key capable of initiating a call is inadvertently pressed when the portable telephone apparatus 31 is carried in a bag with a detailed display screen displayed, an erroneous call does not occur. This function also works when the list screen is being displayed.

Detailed Description Paragraph Right (69):
In addition to the method for initiating a call from the screen of telephone book list, there is another method of pressing the send

key 36E while the display screen shown in (D) of FIG. 20 is being displayed. This is a method that a call is initiated after detailed information on the communicate is displayed, and the portable telephone apparatus 31 also provides a function of initiating a call directly from the list screen. For example, if the send key 36E is pressed while the display screen shown in (C) of FIG. 20 is being displayed, a call to a communicates at which the cursor K is positioned can be immediately initiated. A call can also be immediately initiated by continuously pressing the numeric key corresponding to a communicate for one second. In these methods, the controller 47 detects the output signal from the send key 36E or detects that the numeric key 36B is pressed for a specified length of time, and controls the transmitting/receiving circuit 40 to initiate a call operation. The method for detecting whether or not the numeric key 36B is press operated for a specified length of time can be executed similar to the aforementioned method for detecting whether or not the jog dial 36J is pressed for a specified length of time.

Detailed Description Paragraph Right (117):
Furthermore, in the second embodiment described above, an SIM card is used as an ID card for storing all the management information for a subscriber. However, this invention is not only limited to this, but ID cards that conform to other standards can be used.

CLAIMS:

1. A communication terminal apparatus comprising:

a body;

transmitting and receiving means arranged in said body;

selection operation means arranged on said body operable by a user in a first direction along a surface of said body and in a second direction substantially perpendicular to the first direction;

operation detection means for detecting an operation of said selection operation means in said first direction and in said second direction;

storage means for storing data of a plurality of communicatees;

display means for displaying said plurality of communicatees read out of said storage means; and

control means for controlling said display means so that one of said plurality of communicatees is selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in said first direction, and for controlling said transmitting and receiving means to originate a call to said plurality of communicatees selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in said second direction, and perform a mute operation in response to operating said selection operation means in said second direction, wherein

WEST

End of Result Set

Generate Collection Print

L4: Entry 3 of 3 File: USPT Dec 7, 1999

DOCUMENT-IDENTIFIER: US 5999827 A
TITLE: Communication terminal apparatus and control method thereof

Detailed Description Paragraph Right (32):
The controller 47 operates based on programs stored in a ROM 48 and data read into a RAM 49. The controller 47 also controls a transmitting/receiving circuit 40 to transmit and receive information to and from other communication terminals via an antenna 41 connected to the transmitting/receiving circuit 40. The controller 47 has a card socket 43 connected thereto, and reads out all the management information on a subscriber from a subscriber ID card 42 (in the second embodiment, a Subscriber Identity Module (SIM) card 42 is described) inserted into the card socket 43.

Detailed Description Paragraph Right (39):
Main functions assigned to the respective operation keys are as follows. The power supply key 36A is used to supply power to the internal circuit in the main body 32. When the power supply key 36A is pressed once, the power is supplied to the apparatus, and when the power supply key 36A is pressed twice, the power supply is turned off. If the user has not input a PIN (Personal Identity Number) for thirty seconds after the power was supplied by the power supply key 36A, the controller 47 detects the circumstance and automatically turns off the power. In this manner, it is possible to prevent the power from continuing to be supplied during malfunctioning.

Detailed Description Paragraph Right (47):
If no operation has been executed for thirty seconds since a menu screen was displayed, the control 47 detects this and closes the menu screen to return to the initial screen. In this case, if the arm microphone 33 is closed, the state returns to the key lock state. This prevents from malfunctioning.

Detailed Description Paragraph Right (51):
The axis of rotation 0 is fixed to the slide plate. When the jog dial is pressed in direction of the arrow D, the rotary encoder and the jog dial are slid en bloc to press operate the switch SW, and the switch SW is switched to the "ON" state. The controller 47 determines whether or not the jog dial 36J has been clicked, that is, press operated by detecting the "ON" or "OFF" state of the switch SW based on the output signal from the switch SW.

Detailed Description Paragraph Right (53):

said control means controls said transmitting and receiving means to adjust a reception sound volume in response to operating said selection operation means in said first direction during a communication operation, and wherein

said control means controls said transmitting and receiving means to perform a mute operation in response to operating said selection operation means in said second direction.

2. A communication terminal apparatus, comprising:

a body;

a microphone rotatably mounted on said body and positionable in an opened state and a closed state, said microphone used in the opened state during a communication-operation;

transmitting and receiving means arranged in said body;

selection operation means arranged on said body for operation by a user in a first direction and in a second direction, said first and second directions being substantially perpendicular to each other;

operation detection means for detecting the operation of said selection operation means in the first and second directions;

storage means for storing data of a plurality of communicatees;

display means for displaying said data of said plurality of communicatees read from said storage means; and

control means operable when said microphone is in the opened state for reading the data of the plurality of communicatees from said storage means and for displaying read out data on said display means in response to a detection result of said operation detection means when said selection operation means is operated in the second direction a first time, said control means controlling said display means so that one of said communicatees is selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in the first direction, and said control means controlling said transmitting and receiving means to originate a call to the communicatee selected on said display means in response to a detection result of said operation detection means when said selection operation means is operated in the second direction a second time.